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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/928,470	08/14/2001	Dieter Lindner	33766W040	6449

7590 08/18/2003

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EXAMINER

STRICKLAND, JONAS N

ART UNIT	PAPER NUMBER
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1754

DATE MAILED: 08/18/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

# Office Action Summary

Applicati n N .

09/928,470

Examin r

Jonas N. Strickland

Applicant(s)

LINDNER ET AL.

Art Unit

1754

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

## Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

1) ☒ Responsive to communication(s) filed on 14 August 2001.

2a) ☐ This action is FINAL.

2b) ☒ This action is non-final.

3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

## Disposition of Claims

4) ☒ Claim(s) 1-21 is/are pending in the application.

4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.

5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.

6) ☒ Claim(s) 1-21 is/are rejected.

7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.

8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

## Application Papers

9) ☐ The specification is objected to by the Examiner.

10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

11) ☐ The proposed drawing correction filed on \_\_\_\_\_ is: a) ☐ approved b) ☐ disapproved by the Examiner.

If approved, corrected drawings are required in reply to this Office action.

12) ☐ The oath or declaration is objected to by the Examiner.

## Priority under 35 U.S.C. §§ 119 and 120

13) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a) ☒ All b) ☐ Some \* c) ☐ None of:

1. ☒ Certified copies of the priority documents have been received.

2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.

3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).

a) ☐ The translation of the foreign language provisional application has been received.

15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

## Attachment(s)

1) ☒ Notice of References Cited (PTO-892)

2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)

3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 5.

4) ☐ Interview Summary (PTO-413) Paper No(s). \_\_\_\_\_.

5) ☐ Notice of Informal Patent Application (PTO-152)

6) ☐ Other:

## DETAILED ACTION

### *Claim Rejections - 35 USC § 102*

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

2. Claims 1, 2, and 21 are rejected under 35 U.S.C. 102(b) as being anticipated by Gandhi et al. (EP 0786284 A1).

Applicant claims an exhaust gas purification catalyst to be used close to the engine, for the purification of the exhaust gases from an internal combustion engine, comprising palladium on aluminum oxide and barium oxide, wherein barium oxide and palladium are together deposited on the aluminum oxide support and the average particle size of the palladium crystallites present on the support is between 3 and 7 nm.

Gandhi et al. discloses a catalyst converter having a first highly loaded palladium or tri-metal catalytic element containing palladium of relatively large particle size closely coupled to the engine exhaust manifold (see abstract). Gandhi et al. continues to disclose wherein the highly loaded palladium may be induced by the incorporation of barium, zirconium, or stabilized cerium oxide closely coupled to the exhaust of an internal combustion engine (p. 2, col. 2, lines 49-56). Gandhi et al. continues to disclose wherein the palladium particle sizes in the catalytic element may be in the range from about 60A to 1500A (col. 4, lines 18-21). The catalytic metals may be coated on monolithic ceramic substrates of alumina (p. 4, lines 22-26). It is anticipated

Art Unit: 1754

that a purification catalyst comprised of palladium, wherein the palladium particle sizes in the catalytic element may be in the range from about 60A to 1500A and barium oxide deposited on an alumina support, would exhibit a size distribution of  $\pm 0.5$  nm.

***Claim Rejections - 35 USC § 103***

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

5. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

Art Unit: 1754

6. Claims 3-20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Gandhi et al. (EP 0786284 A1) in view of Mussmann et al. (US Patent 6,080,375).

Applicant claims an exhaust gas purification catalyst comprising a monolithic honeycomb carrier made of ceramic or metal, having deposited thereon as a first catalytically active coating in a concentration of between 50 and 200 grams per liter volume of the honeycomb carrier.

The teachings of Gandhi et al. have been discussed with respect to claims 1, 2, and 21. However, Gandhi does not teach the limitations recited in claims 3-10.

Mussmann et al. teaches an exhaust gas purification catalyst having two superposed functional layers applied to the support (see abstract). The functional layers are each applied to the support in a concentration of from 10 to 300 grams per liter of support volume (col. 5, lines 8-11). Mussmann et al. continues to disclose wherein the catalyst contains 3.5 g/l of palladium and 50g/l of a lanthanum oxide stabilized aluminum oxide (col. 5, see Examples). With respect to the concentration of the barium oxide, Gandhi et al. continues to disclose wherein the highly loaded palladium may be induced by the incorporation of barium, zirconium, or stabilized cerium oxide closely coupled to the exhaust of an internal combustion engine (p. 2, col. 2, lines 49-56). Mussmann et al. teaches wherein cerium and zirconium may be utilized in an amount from 18 g/l to 25 g/l, as well as the exhaust gas catalyst may be used in combination with other catalysts in the exhaust gas purification system. Therefore, it would have been obvious to one of ordinary skill in the art to modify the teachings of Gandhi and use the amount of cerium and zirconium for barium oxide as taught by

Mussmann et al., which teaches using other catalysts, which can be used in exhaust gas purification processes.

With respect to claim 6, Mussmann et al. teaches a second coating containing platinum and rhodium on an aluminum oxide, an oxygen-storage component and additional oxide (col. 4, lines 1-48).

It would have been obvious to one of ordinary skill in the art to combine the teachings of Gandhi et al. and Mussmann et al., since both references teach using catalysts for the purification of exhaust gas and wherein the exhaust gas catalyst may be used in combination with other catalysts in the exhaust gas purification system as taught by Mussmann et al.

With respect to claims 11-15 and 18-20, they are held to be product by process claims. Gandhi et al. continues to disclose wherein the highly loaded palladium may be induced by the incorporation of barium, zirconium, or stabilized cerium oxide closely coupled to the exhaust of an internal combustion engine having an alumina support. The Patent Office bears a lesser burden of proof in making out a case of *prima facie* obviousness for product-by-process claims. Once a rationale tending to show that the claimed product appears to be the same or similar to that of the prior art, although produced by a different process, the burden shifts to applicant to come forward with evidence establishing an unobvious difference between the claimed product and the prior art product. *In re Marosi*, 710 F.2d 798, 802, 218 USPQ 289, 292 (Fed. Cir. 1983).

### **Conclusion**

7. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jonas N. Strickland whose telephone number is 703-306-5692. The examiner can normally be reached on M-TH, 7:30-5:00, off 1st Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Stanley Silverman can be reached on 703-308-3837. The fax phone numbers for the organization where this application or proceeding is assigned are 703-872-9310 for regular communications and 703-872-9311 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-305-0661.



Jonas N. Strickland  
August 11, 2003



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